
रोकड़ बक्सा — विशिष्टि
(चौथा पुनरीक्षण)

Cash Boxes — Specification
(*Fourth Revision*)

ICS 683.341

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FOREWORD

This Indian Standard (Forth Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Security Equipment Sectional Committee had been approved by the Mechanical Engineering Divisional Council.

This standard, first published in 1957, was revised in 1970, 1979 and 1992. In this revision amendment Nos. 1 and 2 have been incorporated. Cash boxes of various kinds are being manufactured in India from a long time to cater to a wide variety of requirements. Several improvements in the manufacture and design of cash boxes have been made from time-to-time. This standard on Cash Boxes has been also been revised accordingly to keep it up to date with customers' requirements and industry practices.

The following major changes in this revision are:

- a) Salt spray test has been incorporated to ensure the quality of surface finishing;
- b) Options for types of lock to be used have been widened; and
- c) Provision has been made for manufacture of cash boxes of sizes as per customer's requirement, subject to meeting other requirements of the standard.

Cash boxes of various kinds are being manufactured in India from a long time to cater to the needs of government departments like the Posts and Telegraphs, treasuries, railways, banks, companies and general public. Several improvements in the manufacture and design of cash boxes have been made from time-to-time.

The composition of the Committee responsible for the formulation of this standard is given in Annex C.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2:1960 'Rules for rounding off numerical values (revised)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

CASH BOXES — SPECIFICATION

(*Fourth Revision*)

1 SCOPE

This standard specifies the requirements for cash boxes.

2 REFERENCES

The standards listed in Annex A contain provisions which, through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards given in Annex A.

3 SIZE AND DIMENSIONS

The size, shape and leading dimensions of cash boxes shall be as given in Fig. 1 to Fig. 4.

NOTE — Any other size agreed between the purchaser and the supplier, can also be supplied, subject to meeting requirements of 5.

4 MATERIAL

Materials specified in Table 1 are for general guidance only. The critical quality parameters of the materials used for the components shall be declared by the manufacturer at the time of type approval and records of details of material shall be maintained for conformity during routine production.

NOTE — Keeping in view the availability of indigenous materials and testing facilities with the manufacturer, some physical methods of tests have been given in Annex B for guidance only.

5 CONSTRUCTION AND WORKMANSHIP

5.1 Fabrication

The cash boxes shall be well made and free from defects. Workmanship shall be good. The body, cover and main bolt of the lock shall be free from blow holes, casting defects and other surface defects. Surfaces of the bolts, which are to be in sliding contact, shall be finished smooth.

5.2 Body

The body shall be bent out of a single or two mild steel plates to the shape illustrated in Fig. 1 which shows sectional perspective of the body for clarity. The plate

Table 1 Materials to be Used in the Manufacture of Different Parts of Cash Boxes and Their Locks

(Clause 4)

Sl No. (1)	Part (2)	Material (3)
i)	Body, fixed bottom, detachable bottom, lid, coin tray, slotted lugs, Locker case and cover plate	Any grade of steel as per IS 2062, IS 1079 or any other equivalent standard
ii)	Drill proof plate	Any grade of hardenable steel with HRC 50, Min
iii)	Handles and other non-ferrous components including those of lock body	Cast brass as per IS 292 or the bronze as per IS 306 or zinc base alloy as per IS 713 or suitable stainless steel as per IS 1570 or any other equivalent
iv)	Levers	Sheet brass conforming to CuZn 40 of IS 410

NOTE — The materials for the components shall be declared by the manufacturer at the time of type approval and records of details of material shall be maintained for conformity during routine production

shall be bent uniformly by machine and not by hammer blows. The recess at top, which receives the lid, shall be deep enough to allow the lid in closed position to remain 6 to 10 mm below the top edge of the body. All the eight corners, as also the single joint of the body shall be strongly welded and finished smooth.

5.3 Bottom

One fixed and one detachable bottom, both of mild steel, shall be provided. The fixed bottom (see B in Fig. 3) shall be inserted from inside and welded to the bottom flanges of the body. It shall have two or three recesses for cash boxes of nominal size 1 or 2 respectively which, in conjunction with the rear bottom flange of the body, shall form pockets (see C in Fig. 3) to engage the lugs in the rear edge of the detachable bottom. The front edge of the detachable bottom shall be provided with two mild steel slotted lugs for cash boxes of nominal size 1 and three mild steel slotted lugs for cash boxes of nominal size 2 to engage the lower bolts of the cash box lock mechanism, when the lid is locked. Suitable holes shall be provided on the detachable bottom so that it can be fixed to a table or counter

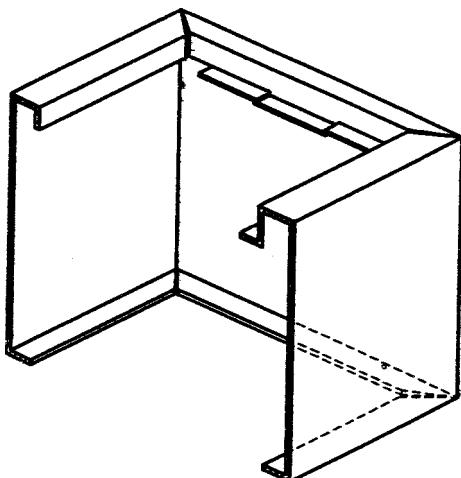


FIG. 1 SECTIONAL PERSPECTIVE OF BODY SHOWING
BEND CONSTRUCTION

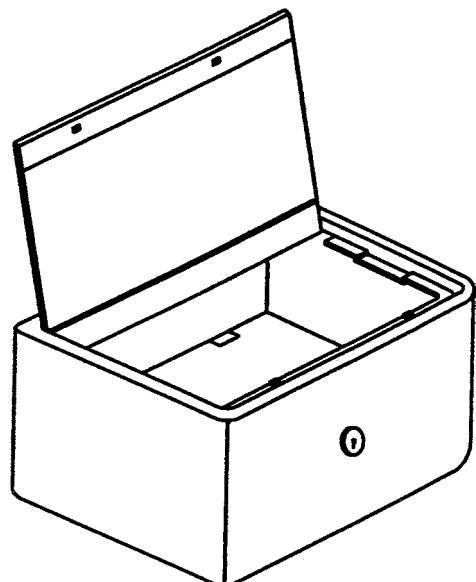
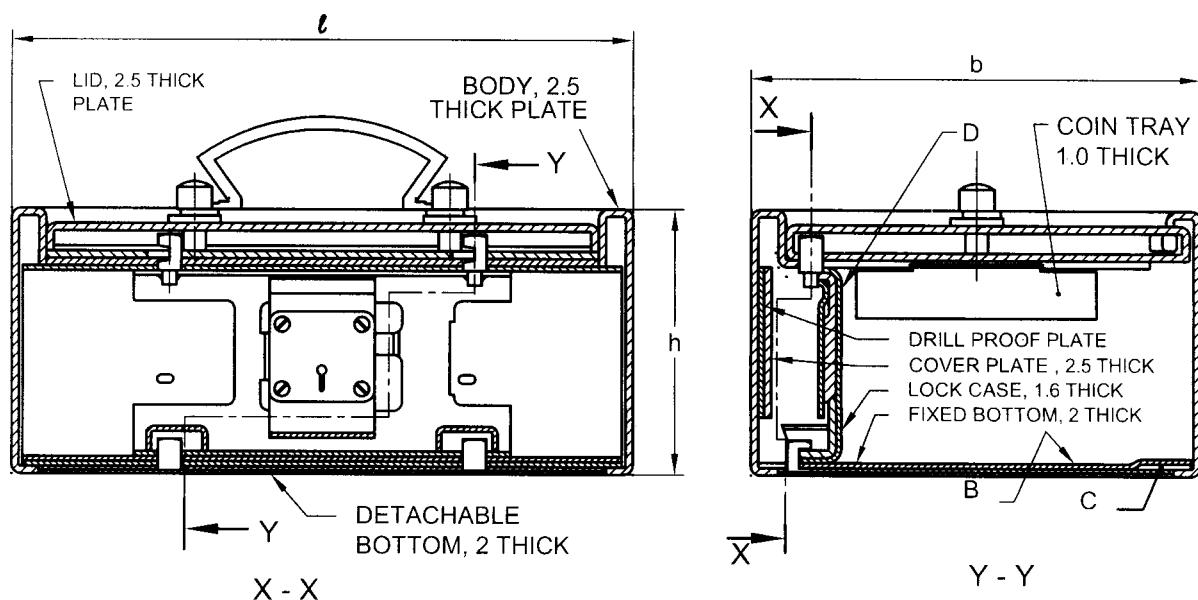


FIG. 2 CASH BOX (WITH LID OPEN)



Nominal Size	$l \pm 2.5$	$b \pm 2.5$	$h \pm 2.5$
1	355	255	150
2	455	300	255

All dimensions in millimetres.
FIG. 3 DIMENSIONS FOR CASH BOXES

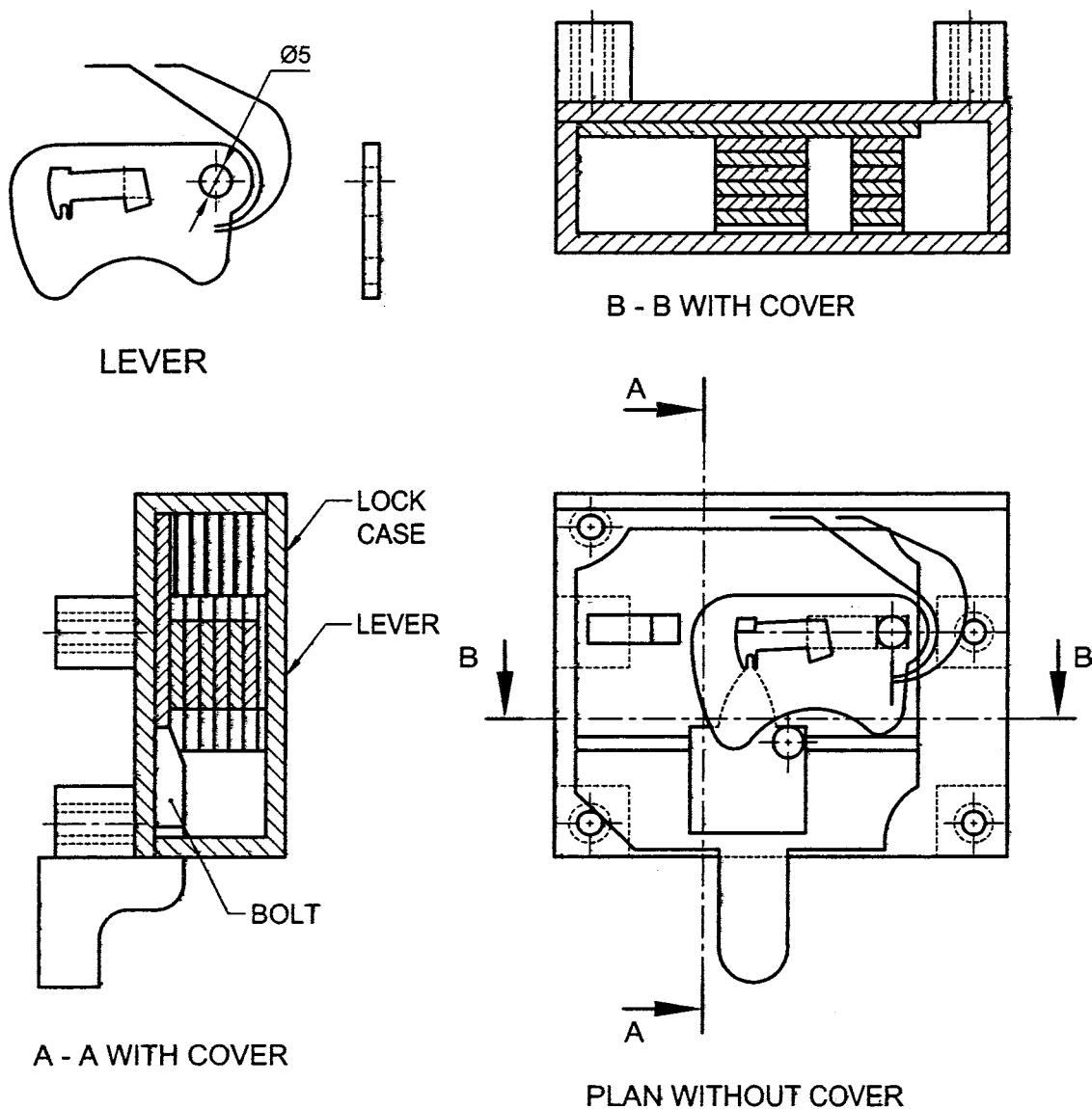


FIG. 4 LEVER TYPE LOCK

5.4 Lid

The lid shall be of mild steel with double-bent flanges along its front edge, preferably double-bent flanges along its rear edge and single-bent flanges on the sides. The four corners of the lid shall be strongly welded. The front inside flange shall be provided with rectangular slots to receive and engage the top locking bolts. The back edges of the lid shall be reinforced with a rectangular or round mild steel section which shall also act as rigid support for the pivot pins. The lid, when closed, shall snugly fit into the recess formed by the body flanges and the clearance at any place between the lid and the body shall be not more than 1 mm. When locked, the lid shall not have a play of more than 1 mm in the direction in which the lid opens.

5.5 Hinges

Hinges shall be of the pin pivot type and shall be made of mild steel. The pivots shall be accurately machined and fitted so as to allow the lid to move without appreciable friction or play. They shall not be accessible from the outside. The pivot pins shall be not less than 8 mm dia.

5.6 Bolts

Bolts shall be of cast brass or tin bronze (gun metal) or mild steel bar. There shall be two main bolts for locking the lid and two auxiliary bolts for locking the detachable bottom to the box for cash boxes of nominal size 1 and three main bolts for locking the lid and three auxiliary bolts for locking for detachable bottom to

the box for cash boxes of nominal size 2. The layout of the bolt-work and the lock shall be generally as shown in Fig. 3. The bolts shall slide smoothly when the key is turned in the lock and fit snugly into the slots on the lid. The lock and bolt work shall be mounted on the firm base of a lock case (*see D* in Fig. 3) which shall be firmly secured to the body of cash box from inside.

5.7 Handle

The handle, shall be made of steel or non-ferrous material. It shall be nickel plated or chromium plated or anodized or powder coated. Handle may also be made of polymer.

5.8 Lock

The cash box shall be fitted with a high quality lock. The general arrangement of the typical lever lock shall be as shown in Fig. 4. The lock shall be protected by a drill-resisting plate fitted to the body of the cash box in front of the lock (*see Fig. 3*). Locks other than lever type may also be used.

5.8.1 Levers

The lever lock when used, shall be fitted with at least six levers. The levers may not be of uniform thickness but shall be smooth on both faces so as to obtain parallelism. The levers shall be machine-punched and shall not be less than 1.2 mm thick. The slots in the levers shall be accurately cut so as to minimize friction in their working. In case of dual control lock each lever shall have two slots for the passage of main and auxiliary bolt pins. Alternatively, a pin tumbler type lock having minimum six pin tumblers may be used.

5.8.1.1 False (dummy) levers or pins shall not be used.

5.8.2 Lever Springs

Each lever shall be fitted with phosphor bronze springs with their ends securely lodged in to the slots cut in the lever. After fitting the spring, the slots shall be peened over at both sides. The springs shall be uniformly curved and shall be free from dents or scratches. When the levers are fitted into the lock, each spring shall rest against the back of the main body, so that the spring is kept under tension. The spring fitted into the levers shall stand the test given in 5.8.2.1.

5.8.2.1 Test of lever springs

The spring fitted into the lever shall be pressed down so as to touch the top of the lever, and released. This shall be repeated six times in quick succession. At the end of the test, the springs shall regain its original position.

5.8.3 Key

Each lock shall be provided with duplicates of main

and/or auxiliary keys as the case may be. Keys shall be made from stainless steel or any other non-ferrous material. The wards shall be evenly cut, clearly defined and free from burrs. The engaging ends of the key wards shall be finished smooth.

5.8.4 Unpickability

The lock shall be carefully and accurately made so as to render it unpickable.

5.8.5 Non-interchangeability

The workmanship shall be such that the keys of any two locks, which have the nearest lever combinations, shall be mutually non-interchangeable. In other words, no lock shall open by any key other than its own specific key. For this purpose, it is essential that, unless specifically required by the purchaser, no two locks shall have the same lever combination. A given combination of levers once used, shall not be used again unless the thickness of the levers and their numbers, or the radius of sweep or steps, or the increment in steps is altered.

6 INTERNAL FIXTURES

Unless otherwise specified by the purchaser, the cash box shall be provided with a coin tray having three compartments. It shall be made of mild steel of thickness as specified in Fig. 3 or from moulded plastic.

7 PAINTING/ SURFACE COATING

The cash boxes shall be painted/coated inside and outside with a standard paint system or powder coating or any other surface coating.

Cross hatch test shall be conducted to conform the adhesion coating in accordance with 7.1.

7.1 Cross Hatch Test

- a) Make 6 parallel cut marks using sharp metal pointer and straight edge, through the painted/coated surface, so as to make the base surface visible through cut marks.
- b) Cut marks shall be minimum 20 mm long and at 2 mm distance from each other.
- c) Make 6 similar cut marks in the direction perpendicular to first set of cut marks, with same length and spacing.
- d) These 12 cut marks together shall make a pattern of 25 squares of 2 mm × 2mm size, totally separated from each other.
- e) A good quality transparent adhesive tape not less than 20 mm width shall be stuck on the pattern, parallel to any one set of cut marks.
- f) To ensure continuous contact with paint/coat film, rub the tape firmly and remove air

bubbles under the tape, if any.

g) Within 60 to 120 s after sticking the tape, remove it by seizing free end of the tape and rapidly pulling it off at an angle close to 180°.

h) Painting/Coating quality is considered as acceptable if no part of any 2 mm × 2 mm square of paint/ coat comes off the surface due to pulling the tape.

8 MARKING

8.1 Marking on Cash Boxes

A metal plate showing the maker's name or trade-mark shall be affixed to the cash boxes.

8.2 BIS Certification Marking

Details available with the Bureau of Indian Standards.

8.2.1 The use of the Standard Mark is governed by

the provisions of *Bureau of Indian Standards Act, 1986* and the Rules and Regulations made thereunder. The details of conditions under which the licence for the use of the Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.

8.3 Marking on Keys

The keys shall bear an identification number which shall not be the same as the serial number of the cash box.

9 PACKING

Each cash box shall be packed in accordance with the best trade practice with its lid shut but not locked. The keys shall be separately sealed in a cardboard or metal box, or pouch and placed inside the cash box. The keys may also be packed and dispatched separately or delivered in some other manner if the purchaser so requires.

ANNEX A

(Clause 2)

LIST OF REFERRED INDIAN STANDARDS

IS No.	Title	IS No.	Title
292 : 1983	Leaded brass ingots and castings (<i>second revision</i>)	1570 (Part 5) : 1985	Schedules for wrought steels : Part 5 Stainless and heat resisting steels
306 : 1983	Tin bronze ingots and castings (<i>third revision</i>)	2062 : 2011	Steel for general structural purposes (<i>seventh revision</i>)
410 : 1977	Cold rolled brass sheet, strip and foil (<i>third revision</i>)	2704 : 1983	Brass wires for cold-headed and machined parts
713 : 1981	Zinc base alloy ingots for die castings (<i>second revision</i>)	7608 : 1987	Phosphor bronze wire for general engineering purposes (<i>first revision</i>)
1079 : 2009	Hot rolled carbon steel sheet and strip (<i>sixth revision</i>)		

ANNEX B

(Clause 4)

**REQUIREMENTS FOR MATERIALS OF CASH BOXES CONFORMING TO
INDIAN STANDARDS AND METHODS OF TEST**

(for guidance and not mandatory)

<i>Sl No.</i>	<i>Material</i>	<i>Typical Example</i>	<i>Requirements for Material</i>
(1)	(2)	(3)	(4)
i)	Cast brass	Grade 3 of IS 292	Copper content shall be not less than 60 percent. Castings shall be free from blow holes, surface and other casting defects.
ii)	Brass sheet	CuZn 40 of IS 410	The brass sheet shall meet the same bend test as specified for mild steel.
iii)	Brass wire	IS 2704	Copper contents shall not be less than 55 percent and tensile strength 350 MPa minimum.
iv)	Phosphor	Grade 1 of IS 7608	The wire used for springs shall bronze wire comply with the rest given below: "The lever spring shall be fitted into the lever as specified in 5.8.2.1 and shall be pressed down so as to touch the top edge of the lever and released. This shall be repeated six times. At the end of the test the spring shall regain its original position".

ANNEX C
(Foreword)
COMMITTEE COMPOSITION

Security Equipment Sectional Committee, ME 24

<i>Organization</i>	<i>Representative(s)</i>
Reserve Bank of India, Mumbai	SHRI S. VENKATACHALAM (Chairman)
ARAI, Pune	SHRI A.V. MANNIKAR SHRI M. SREENIVASULU (<i>Alternate</i>)
Bank of India, Mumbai	CAPT L. K. SINGH CAPT VIRINDER MINHAS (<i>Alternate</i>)
Central Bank of India, Mumbai	CAPT S. KANNAN LT CDR VINOD SUNOTRA (<i>Alternate</i>)
Central Building Research Institute, Roorkee	SHRI SUBIR SINGH SHRI H. K. JAIN (<i>Alternate</i>)
Godrej & Boyce Manufacturing Co Ltd, Mumbai	SHRI D. E. BYRAMJEE SHRI PRASHANT CHOUTHAKANTHIWAR (<i>Alternate</i>)
Guardwell Industries Pvt Ltd, Mumbai	SHRI ANTHONY L. TUSCANO SHRI JOHN D'MELLO (<i>Alternate</i>)
Gunnebo India Ltd, Mumbai	SHRI S. GANGOPADHYAY SHRI P. SENGUPTA (<i>Alternate</i>)
Indian Overseas Bank, Mumbai	CAPT M. P. SIVAN
Indian Bank Association, Mumbai	SHRI V. RAMCHANDRAN
Insurance Regulatory & Development, Hyderabad	SHRI T. S. NAIK
Methodex Systems Ltd, New Delhi	SHRI S. K. SINGH SHRI SAMEER SAXENA (<i>Alternate</i>)
Ministry of Civil Supplies & Disposal, New Delhi	SHRI RAKESH KUMAR SHRI SHLOK BHARDWAJ (<i>Alternate</i>)
Punjab National Bank, New Delhi	CAPT S. P. SINGH CAPT DEEPAK SAGAR (<i>Alternate</i>)
Sherni Enterprises, Pune	SHRI FAROKH KUTAR MS ARTI GUPTA (<i>Alternate</i>)
Tata Consultancy Services, New Delhi	SHRI AJIT MENON SHRI R. K. RAGHAVAN (<i>Alternate</i>)
The Gem & Jewellery Export Promotion Council, Mumbai	SHRI KONAL DOSHI SHRI VIJAY KAPOOR (<i>Alternate</i>)
Union Bank of India, Mumbai	SHRI R. RAJARAM SHRI MANOJ M. K. MALL (<i>Alternate</i>)
In personal capacity (<i>Plot No. 41, Block No. 5, Mehta Cottage, Raut Road, Shivaji Park, Dadar, Mumbai 400 028</i>)	Dr SHRI AJIT G. NARAVANE
BIS Directorate General	SHRI T. V. SINGH, Scientist 'F' and Head (MED) [Representing Director General (<i>Ex-officio</i>)]

Member Secretary
 Ms KHUSHBOO KUMARI
 Scientist 'B' (MED), BIS

Bureau of Indian Standards

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Review of Indian Standards

Amendments are issued to standards as the need arises on the basis of comments. Standards are also reviewed periodically; a standard along with amendments is reaffirmed when such review indicates that no changes are needed; if the review indicates that changes are needed, it is taken up for revision. Users of Indian Standards should ascertain that they are in possession of the latest amendments or edition by referring to the latest issue of 'BIS Catalogue' and 'Standards : Monthly Additions'.

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Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

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